REMARKS

The present communication responds to the Office Action mailed June 30, 2006. In that Office Action, the Examiner rejected each of claims 1-4, 16, 18, 20-31. It is first noted that claim 4 was cancelled in applicant's previous response mailed April 27, 2006. Thus any references to the rejection of claim 4 will not be addressed.

With the present response the applicant amends claim 1 by changing the term "fluid" to "liquid." Claim 1 is further amended by deleting the following language: "and through which said liquid drops can be forced by a pulse of pressurized gas." Applicant also amends claim 24 by deleting the following language: "through which said liquid drop can be forced by a pulse of pressurized gas applied to the liquid at the other end in order to form said drop." Lastly, applicant amends claim 31 by changing the phrase "said outlet member is" to "said protruding nozzle further comprises." No new matter is added with these amendments. Support for the amendment to claim 1 can be found at page 4, lines 16 through 19. Support for the amendment to claim 31 can be found in claim 24.

The applicant has amended the claims to remedy 35 U.S.C. § 112 concerns and thus applicants respectfully request reconsideration and withdrawal of these objections and rejections. Furthermore, the applicants respectfully request reconsideration and withdrawal of the 35 U.S.C. § 102 rejection because the cited reference does not teach or suggest cartridges "comprising a liquid reservoir and a separate outlet member or protruding nozzle attached and adjacent to the liquid reservoir."

Objection to Specification

The specification has been objected to for failing to provide proper antecedent basis for the claimed subject matter. Specifically, the office action suggests that the specification does not support the aperture preventing leakage of fluid. As discussed above, the term "fluid" as stated in claim 1 has been changed to "liquid." Withdrawal of the objection regarding proper antecedent basis is requested because support for "prevents leakage of liquid" is provided in the specification at page 4 lines 16-19.

Rejection Under 35 U.S.C. § 112, Paragraph 1

Claims 1-3, 16, 18, 20-31 were rejected under 35 U.S.C. § 112, Paragraph 1 for failing to comply with the written description requirement. Applicants respectfully traverse this rejection for at least the following reasons.

Claim 1 has been amended to change the term "fluid" to "liquid." Support for the amendment can be found for example at page 4, lines 16-19.

The term separate has been employed in the claim to distinguish between the reservoir and the outlet member. In addition to the previous reference to page 7, lines 6-17, support for the term separate can be found in figure 1, which shows an embodiment of the invention. This figure shows a reservoir filled with a reagent and it further shows an outlet member in the form of a capillary tube. This example shows that the reservoir and the outlet member are separate parts of the invention but that they are attached and adjacent to each other.

Withdrawal of the rejection regarding the written description requirement is requested because the subject matter has been described in the specification so as to reasonably convey to one skilled in the art that the inventors had possession of the claimed invention at the time the invention was filed.

Rejection Under 35 U.S.C. § 112, Paragraph 2

Claims 1, 2, 16, and 31 were rejected under 35 U.S.C. § 112, Paragraph 2 for being indefinite. Applicant traverses this rejection for at least the following reasons.

Claim 1 appears to have been rejected for suggesting that the aperture can prevent the leakage of fluid. As discussed, the term "fluid" has been amended to "liquid."

Claim 2 was rejected for pertaining to a process limitation of how the devices are formed. Page 2 of the specification, specifically lines 28 through 37 continuing on to page 3, line 1 discuss that the cartridges "may be provided singly, but preferably a plurality are provided in a cassette." The specification continues by indicating that "preferably the cartridges are formed integrally with one another to form said cassette." Further discussion of this structure at page 4 lines 26-29 indicates that "where, as is preferred, a plurality of cartridges together form a

cassette, each may have its own such wall member or two or more of the cartridges may share a wall member with an aperture for each cartridge." The context of the specification suggests that the method of manufacture is not what is being addressed but rather the structure of the plurality of cartridges as a unitary structure. Claim 2 is therefore a structural limitation, not a process limitation.

Claim 16 was rejected for referring to the width of the aperture. The office action indicates it is unclear if applicant is attempting to state that the shape of the aperture is something other than circular because width is not a dimension of a circle. Page 4, lines 35 through 37 and continuing on to page 5, lines 1 through 5 indicates "the aperture could be any shape, but most conveniently it is round. However, if larger volumes of liquid are required an elongate slit could for example be employed." The specification continues by discussing the preferred width of the aperture as 40 micrometers. Furthermore, if the aperture is a slit, "it could for example be 40 x 500 micrometers." Thus, the term width is used to refer to either the diameter of a circular aperture or the short dimension of a slit type aperture.

Claim 31 was rejected for insufficient antecedent basis for the limitation "said outlet member." As discussed above, Claim 31 has been amended to change the phrase "said outlet member is" to "said protruding nozzle further comprises." Claim 31 depends from claim 24 which provides proper antecedent basis for "said protruding nozzle."

Withdrawal of the rejections regarding indefiniteness is requested because applicant has particularly pointed out and distinctly claimed the subject matter applicant regards as the invention.

Rejection Under 35 U.S.C. § 102(e)

Claims 1-4, 23-24, and 29-30 were rejected under 35 U.S.C. § 102(e) as being anticipated by Rose et al. (U.S. Patent No. 6,551, 557). Applicant traverses the rejection for at least the following reasons.

Applicant's invention comprises a plurality of cartridges for dispensing liquid drops in the range of 10-500 nanoliters. Each cartridge includes a liquid reservoir and a separate outlet member attached and adjacent to the liquid reservoir. The outlet member further includes an

aperture of a size that prevents leakage of liquid. For example, through which the liquid drops can be forced by a pulse of pressurized gas.

Rose teaches an aspirate-dispense system 10 generally comprising a dispenser 12 with the tip 200 and a positive displacement syringe pump 22 intermediate a reservoir 16. Rose further teaches that the dispenser 12 generally comprises a solenoid-actuated drop-on-demand valve 20, including a valve portion 34 and a solenoid actuator 32, hydraulically coupled to the tube or tip 200. Rose also teaches that hydraulic coupling between the pump 22 and the dispenser 12 provides for the situation where the input from the pump 22 exactly equals the output from the dispenser 12 under steady state conditions.

The office action suggests that Rose teaches each dispenser comprises a reservoir portion and an outlet member/protruding tip with a nozzle like the cartridge in applicant's invention.

Applicant respectfully disagrees that the dispenser 12 disclosed by Rose comprises a reservoir. In fact, as noted above, the dispenser comprises an actuator and a valve and does not include a reservoir. Thus, the dispensers disclosed by Rose do not anticipate the cartridges in applicant's invention. While Rose does disclose a reservoir 16, as mentioned, it is not part of the dispenser, and furthermore it is not "adjacent" to the tip. In fact, the tip is separated from the reservoir by an actuator, a valve, and a positive displacement pump. Rose does not teach or suggest cartridges "comprising a liquid reservoir and a separate outlet member/protruding nozzle attached and adjacent to the liquid reservoir."

Finally, while the pressurized gas source in applicant's invention is in a dependent claim, it seems pertinent to point out that Rose does not teach or suggest a pressurized gas source. While a certain steady state pressure may develop under steady state conditions, hydraulic coupling requires the use of incompressible liquids and does not teach or suggest a pressurized gas source.

Rose fails to disclose each element of the independent claims. The dependent claims rely on and recite further limitations than the independent claims and thus Rose fails to disclose each element of the dependent claims also. Therefore, reconsideration and withdrawal of the § 102(e) rejection is requested.

Conclusion

This communication generates no additional claim fees. However, the Commissioner is hereby authorized to charge any fee deficit and/or credit any overpayment associated with this communication to Deposit Account No. 04-1420.

The application is in allowable form, and reconsideration and allowance are respectfully requested.

Respectfully submitted,

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